DOCUMENT RESUME

ED 244 562 HE 017 265

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TITLE An Interactive Reservation-Registration System for Continuing Education.
PUB DATE Dec 83
NOTE 10p.; In: Information Resources and the Individual. Proceedings of the CAUSE National Conference (San Francisco, CA, December 11-14, 1983). Boulder, CO, CAUSE, 1984, p. 271-279. For the complete proceedings, see HE 017 245.
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Oriented Programs; Higher Education; Late Registration; *Management Information Systems; Online Systems
IDENTIFIERS *Clayton Junior College GA

ABSTRACT

A relatively rapid system for reservation and/or registration of continuing education (noncredit) students at Clayton Junior College, Georgia, is described. The system was developed on a Texas Instruments 990/10 computer system in COBOL, and makes extensive use of a few function keys. System features include provision for reservation and waiting lists, a simple mechanism for reassignment of reserved spaces to waiting students if reserved student fees are not paid on time, easy access to individual student records, and a variety of reports for local system management and external requirements. The main procedure for reservation-registration data entry (REGI) is simple for the terminal operator. An overview is provided of the the operator's data entry activities, including dropping students placed on the file. It is noted that one of the most useful features of REGI is its updating capability. Updating procedures, and inquiring and verifying procedures are explained. Additional procedures for placing students in an active or holding status and for generating a report by course for courses with holding students are briefly described, along with a variety of other procedures to manage student information pertaining to registration. (SW)

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AN INTERACTIVE RESERVATION-REGISTRATION SYSTEM FOR CONTINUING EDUCATION

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A relatively rapid system for reservation and/or registration of Continuing Education (non-credit) students is described. The system was developed on a Texas Instruments 990/10 computer system in COBOL, and makes extensive use of a few function keys. System features include provision for reservation and waiting lists, a simple mechanism for reassignment of reserved spaces to waiting students if reserved student fees are not paid on time, easy access to individual student records, and a variety of reports for local system management and for satisfying requirements of external agencies.

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RE 017 265

Paper presented at the
CAUSE National Conference
(San Francisco, CA, Dec. 11-14, 1983)

Clayton Junior College, located in south metropolitan Atlanta, is one of 15 community colleges within the University System of Georgia which is composed of a total of 33 colleges and universities. It has a very active Community Services program of non-degree Continuing Education, by far the largest program of any other state community college. In fact, for Fiscal Year 1983 the 557 programs offered were exceeded only by the University of Georgia, Georgia State University, and two four-year colleges.

With a dynamic, service-oriented Director of Community Services having joined the college administration approximately 18 months ago, it now appears that the college's number of programs, participants, and participant hours for the current fiscal year will be exceeded only by the two universities.

Each quarter, the Community Services Department publishes and mass mails a newpaper-type brochure listing all courses to be offered, indicates a two-week interval during which registration will be conducted, and for registration both by mail and in person suggests that the student first phone in a reservation. Although efforts continue each quarter to provide enough classes to meet the expected demand, approximately 30 per cent of classes offered each quarter develop waiting lists.

Prior to the current reservation-registration system, the college had in operation a batch-oriented system which received student information only after the student had paid fees. The Community Services Department was attempting, in a rather haphazard way,

to maintain reservation and waiting lists manually.

Thus, the new system needed to include the following:

1. Provide for the student to either (a) enroll in a class by payment of fees; or (b) reserve a space with subsequent fee payment; or (c) be placed on a class waiting list if all spaces are reserved.
2. Provide a simple mechanism for reassignment of reserved spaces to waiting students if fees are not paid within a specified time.
3. Provide for rapid entry of minimum information for reservations.
4. Provide a system which is simple for the terminal operator to use.

The system was developed for use on the Texas Instruments 990/10 computer system under the DX/10 Operating System in the COBOL language. Televideo 950 terminals, modified to emulate the Texas Instruments 911 Video Terminal, are used for interactive processing.

Basically, four procedures are involved in the reservation-registration operation: REGI, the main procedure for reservation-registration data entry; DEACT, which "deactivates" non-paying reservation students and reassigns the reserved space, on a priority basis, to waiting list students; CALLRPT, a listing of these reassigned students (and remaining Waiting List students) to be called to verify continued desire to enroll; and

CONTAX, an interactive procedure to input the information obtained from the use of CALLRPT.

Considerable effort was expended in the development of REGI to make it as simple as possible for the user. The result includes carefully considered terminal screen layouts, succinct instructions directly on the screen, command entries involving at most a single key stroke, and easy exit from any data entry sequence through the use of either the SEND key to "send" entered data to the computer, or the CMD key to "cancel my data" and ignore the sequence of entries.

In the typical case of the terminal operator accepting a telephone reservation, the operator, given a choice of options, enters A (for ADD), after which a 3-digit course sequence number is requested. As the prospective student is telling the operator which course is desired, an alphabetical listing of all courses is being scanned by the operator, with the appropriate sequence number keyed. This results in the Course Title being displayed, plus the number of remaining spaces and number on the waiting list, with request for the student name to be entered. All screen activity thus far has been on the bottom 3 lines to reduce eye movement. When the name has been entered, provision for entry of all data elements which will ultimately be needed is displayed in the middle of the screen. Two of these elements are DAY PHONE and NIGHT PHONE, at least one of which is considered to be the minimum data entry to constitute a reservation. Thus, use

of the SEND key after either or both of these telephone numbers is entered completes the reservation process.

Assignment of student status is done internally by the program. If space is available and only name and telephone numbers are entered, the student is RESERVED. If no space is available, the status is WAITING. If space is available to a walk-in registrant with payment in hand and the FEE PAID element is entered, the student is ENROLLED, a receipt number is generated internally, the current date is assigned to the REGISTRATION DATE element, and a Receipt Form is printed. Each RESERVED student is also assigned a Registration Date, a computed date 5 days later than the entry date. In practice, this date is used by the DEACT procedure at a later time to identify RESERVED students who have failed to meet the fee payment deadline.

For each course, as each student enters the system, a "queue number" is assigned. This number not only provides, along with the course sequence number, a unique key for the student record; it also ranks students in order of entry, an important step in reassignment of reservations to WAITING students.

In addition to activities associated with original data entry, the REGI procedure can purge a student placed on file through error, or "drop" a student (which keeps the student on file and requests the drop date for later fee refund determination). If the student purged or dropped is in a course with WAITING students, the highest priority WAITING student is changed to

HOLDING status, for later action by the CALLRPT and CONTAX procedures.

One of the most useful features of REGI is its updating capability. Since for most students only a minimum amount of information is originally keyed, the record must be retrieved for further data entry. With the UPDATE (user enters U) option, after entry of tne course sequence number, the user typically enters only the first or first two letters of the student name which results in a display in the middle of the screen of up to 9 students whose names begin with these letters. If more than 9 students in a class have names in the range selected, and the student desired is not on the screen display, use of the F1 key will display up to 9 more names. Each name on the list is preceded by its order on the screen, 1 through 9. (Also displayed are DAY PHONE, NIGHT PHONE, and student STATUS.) When the name desired is seen on the screen, further entry of the single digit for this student will cause the full statistical record for the student to be displayed on the middle of the screen.

This easy method for looking at student records is also available with two more options in REGI: INQUIRE and VERIFY. The INQUIRE option can quickly access any student record, but is also useful in scanning quickly an entire class roll. For example, if only space is entered when student name is requested, the first 9 students are displayed. If the F1 key is depressed, the next 9 students are displayed, etc. The VERIFY option emulates the

operation of a Key Punch Verifier, ringing the terminal bell when keyed data does not match the original data. The F6 key emulates the Verify Correct key on the Key Punch, permitting keyed data to replace the original data.

The DEACT procedure is used, when appropriate, to place RESERVED students who have not paid fees by a designated date in an INACTIVE status, and place highest priority WAITING students in a HOLDING status. Although no data entry other than procedure name is required, it is a highly sensitive procedure, and is written so that only authorized users may run it. It scans the registration file for RESERVED students (in classes with WAITING students) whose Registration Date (computed and stored as the date 5 days past the original date of entry) is earlier than the date on which DEACT is run. Students thus found are changed to INACTIVE, and the highest priority WAITING students are changed to HOLDING.

Procedure CALLRPT generates a report, by course, for all courses with HOLDING students, listing in "queue number" order all HOLDING and WAITING students. This list is then used by Community Services staff to telephone HOLDING students on the list. If the person is contacted and wants the reserved space being held, this is noted on the report. If the person cannot be contacted within a reasonable time, or the person contacted no longer wants to enroll, this information is noted, and the highest priority WAITING person is called with opportunity to take the space originally

assigned to the HOLDING student.

As the calling operation is completed for each course, the CONTAX procedure is run to enter the data noted on the Call Report. This procedure displays, by course, the same information generated by CALLRPT, and gives to the terminal operator options depending on the results of the calling operation. The actions change a HOLDING student who wants the reserved space to RESERVED; or changes the unable-to-contact HOLDING student to WAITING, or the RESERVED student no longer interested to INACTIVE, and changes the WAITING student replacing the HOLDING student to RESERVED.

One week after registration starts, DEACT, and then CALLRPT, is run daily, followed by daily calling and then data entry of results through CONTAX. Although this portion of the system by its very nature involves considerable manual effort, the Director of Community Services considers this feature of the system to be highly rewarding because it results in classes being brought to the maximum level of enrollment.

Several other procedures involving either terminal inquiry or printed reports are available to assist Community Services in the registration process, e.g., interactive monitoring of actual and potential enrollments, lists showing for each class the number of students in various categories (enrolled, waiting, etc.), etc. Other procedures are used to prepare for registration, e.g., data entry of classes to be offered, including time and place of offering, maximum enrollment, etc.

Finally, a variety of other procedures is available to manage student information from the close of registration through the completion of work for a quarter. These include procedures to generate class rolls; to generate certificate rolls as each course is completed, from which data is entered to post CEU (Continuing Education Unit) credit to transcript tapes; to generate ad hoc generalized statistical reports, student lists, and gummed address labels for specified student groups; and to produce the quarterly enrollment report required for submission to the Board of Regents of the University System of Georgia.

All programming is in structured COBOL and except for the extended screen-handling capabilities of the ACCEPT and DISPLAY statements meet ANSI COBOL standards. The major files in the system are key indexed files with alternate keys.